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SIGN DISPLAY RACK

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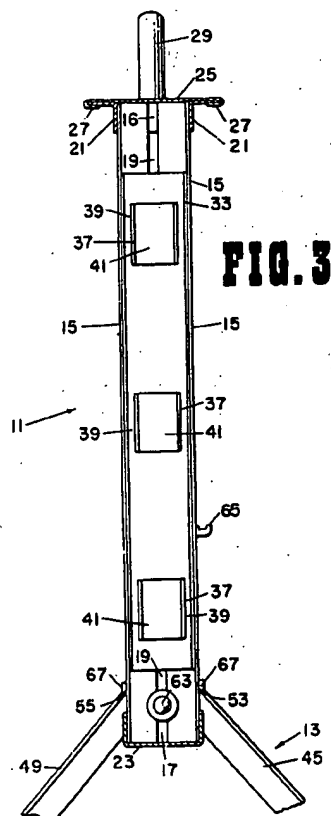
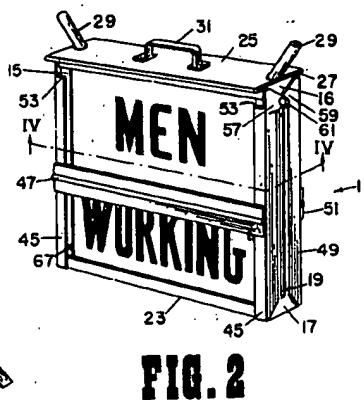
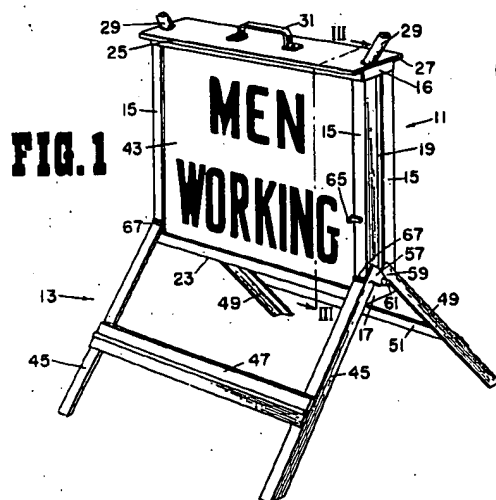
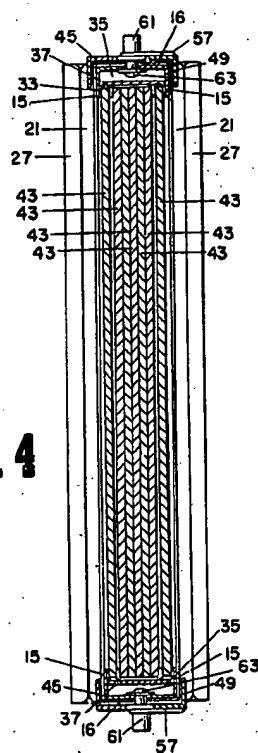


FIG. 4



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2,844,897

SIGN DISPLAY RACK

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8 Claims. (Cl. 40—125)

This invention relates to certain new and useful improvements in means for interchangeably displaying signs, particularly of the type adapted for use by public utilities in connection with gas and water main work, and more particularly the device relates to means for displaying selected such signs, for storing additional such signs for interchange with the displayed signs for further display, and for a new and novel means of supporting the display case by which the signs are contained and held.

It is highly desirable, particularly in connection with public utility work relating to gas and water supplies, that the workmen be supplied with a number of signs adapted for advising the passing public of a particular existent condition, and for furnishing warnings where necessary relative to the work areas. Heretofore it has been generally necessary that separate and individual standards or pedestals bearing an individual sign should be provided, resulting in the undesirable and cumbersome necessity of providing a plurality of such standards and the signs carried thereby. It has proven to be desirable for signs to be supported upon standards at a suitable height and such standards have heretofore in general required an excess amount of space in order to accommodate same, thus limiting the otherwise useful capacity of a work truck. The present invention further contemplates the provision of a new and novel standard means by which signs may be supported as at work sites.

The principal object of the present invention is to provide a sign display container adapted for the storage of substitute signs, together with standard means for supporting same.

A further object of the invention is to provide in such a device, standard means which are readily extendable into supporting position and retractable therefrom into compact storage position.

A further object of the invention is to provide alternative latch means for respectively latching such standard means in extended display position and in retracted storage position.

A further object of the invention is generally to improve the design, construction and efficiency of sign display means.

The means by which the foregoing and other objects of the present invention are accomplished and the manner of their accomplishment will be readily understood from the following specification upon reference to the accompanying drawings, in which:

Fig. 1 is a perspective view of a sign display rack of the present invention in display position.

Fig. 2 is a similar view of the present invention in storage position.

Fig. 3 is a vertical sectional view taken as on the line III—III of Fig. 1 on an enlarged scale, with the signs removed and certain parts broken away for purposes of illustration.

Fig. 4 is an inverted sectional plan view taken as on the line IV—IV of Fig. 2 on a similarly enlarged scale.

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Referring now to the drawings in which the various parts are indicated by numerals, the device in general comprises a sign container means 11 and standard means 13 retractably and extendably interconnected with the container means. Container means 11 comprises opposite side sections, each of the side sections comprising a pair of vertically disposed angle members 15 which are respectively interconnected at top and bottom by plates 16, 17. The members 15 are disposed vertically and interconnected by the connector plates 16 and 17, with the proximate edges of the vertically disposed members 15 being spaced apart to provide an elongated guide slot 19. As can readily be seen, the opposite side sections of container 11 are substantially identical, with members 15, connector plates 16, 17, and elongated slot 19 being provided in each.

The front and rear of the respective side sections are interconnected at their tops by horizontally extending angle members 21. Preferably the angle members 21 each include a vertical flange which is rigidly connected with the opposite side sections preferably as by welding to angle members 15, and a horizontal flange which is outwardly projected (forwardly and rearwardly) from the opposite front and rear of the container. At their lower ends, angle members 15 are seated within and rigidly interconnected with the opposite ends of an inverted channel member 23, channel member 23 extending from side to side of container 11 and being substantially co-extensive in length with upper members 21 so that the side sections, upper members and bottom channel being rigidly interconnected provide a substantial rectangular open sided box-like frame work comprising the general framework of container 11.

Preferably, the upper end of container 11 is closed by a top 25 which includes reversely bent edge portions 27 which fit over and slidably engage with the outwardly projecting flanges of upper angle members 21 so that top 25 is slidably engaged with the container for alternatively effecting closure of container 11 and providing for access to the interior thereof. Top 25 may be provided with generally upwardly projecting sockets 29, each adapted to receive the staff as of a signal flag, not shown. Additionally, top 25 is preferably provided with a handle 31 for the ready handling and transportation of the present invention from place to place and for assistance in the mounting and dismounting of the container with respect to the standard means to move same from and to extended display position, such as shown in Fig. 1, to and from storage or carrying position such as is shown in Fig. 2 in the manner hereinafter described.

Internally, container 11 includes sign retaining means which are rigidly fixed to and form part of the respective side sections preferably as by welding to the interior of angle members 15. The retainer means within container 11 preferably comprise a pair of vertically disposed channel members 33 at each of the side sections, with the flanges of channel members 33 nested within the outer flanges of angle members 15 and rigidly fixed thereto preferably as by welding, and with the web of channel member 33 disposed substantially parallel to the other flanges of angle members 15 and spaced inwardly therefrom so as to provide an elongated passageway 35 communicated with slot 19. Preferably, retainer channels 33 are of a length less than the length of angle members 15 and terminate respectively above the bottom and below the top of such angle members. Preferably a plurality of retainer brackets 37 are rigidly fixed to the interior of retainer channels 33 and are vertically spaced apart therealong. Each of the retainer brackets 37 preferably comprises a short channel section of which the web is of a width less than the width of the web of re-

tainers channels 33, and retainer brackets 37 are fixed to channels 33 so that the flanges of the brackets 37 are spaced somewhat inwardly from the flanges of channels 33, providing thereby a narrow, retainer space 39 between the respective bracket flanges and the respective channel flanges, and a larger intermediate storage space 41 within the retainer brackets 37.

Housed within container 11 and engaged by retainer means 33, 37 are preferably a plurality of signs 43. At the front and rear of container 11 the outermost signs 43 are exposed for display and view through the open windows formed by the open space between the inwardly projecting flanges of members 15, the downwardly projecting flange of members 21, and the upwardly projecting flanges of bottom member 23. Edge portions of such outermost signs 43 are engaged in the retainer spaces 39 between the inwardly projecting flanges of retainer brackets 37 and the inwardly projecting flanges of retainer channels 33. The remainder of signs 43 are stored within container 11 in intermediate storage space 41, as best shown in Figs. 3 and 4.

It will thus be seen that signs 43 are retained within the container 11 and that the outermost signs, being positioned adjacent the open front and rear of the container, are exposed for display purposes and are held against movement transversely of the casing by the retainer means 33, 37. Additionally, it will be observed that the displayed signs 43, as well as the stored signs 43, are held against movement endwise by the webs of the retainer means which extend throughout a substantial portion of the depth of the signs from top to bottom, and which thus effectively segregate the signs away from the elongated passageways 35 formed in the side sections of container 11. Additionally, signs 43 extend upwardly above the upper end of retainer channels 33 so that the signs are conveniently available for grasping when the container is opened for access to the interior by the sliding removal of top 26 from upper angles 21.

Standard means 13 includes a pair of front legs 45 interconnected by a cross bar 47 and a pair of rear legs 49 interconnected by a cross bar 51. Preferably each of the legs 45, 49 is formed from an angle member of conformation similar to the side angles 15, and front legs 45 each include a front flange and a side flange, while the rear legs 49 each include a rear flange and a side flange. The front flanges of front legs 45 are cut off as at 53 to provide a shoulder, and similarly, the rear flanges of rear legs 49 are cut off as at 55 to provide similar shoulders.

Front legs 45 adjacent the upper end of the side flanges thereof are each provided with a rearwardly projecting attachment lug 57, lugs 57 extending rearwardly beyond the rearward edge of the side flanges of legs 45. Similarly, the side flanges of rear legs 49 are provided with forwardly projecting attachment lugs 59. Attachment lugs 57, 59 are respectively attached to the legs 45, 49 adjacent the uppermost ends of the respective legs, and the lugs project toward each other onto lapping relation, preferably lugs 57 being offset to the side so as to overlap and lie outside of lugs 59. Lugs 57, 59 are suitably apertured and the apertures therein are arranged in register so as to receive and be pivotally interconnected by a stud 61, it being observed that there is a similar arrangement of stud 61 projecting through lugs 57, 59 in each of the side sections of the container, as best shown in Fig. 4.

It will be seen that thereby the upper ends of legs 45, 49 are respectively pivotally or hingedly interconnected for folding and unfolding movement, and that the disposition of the attachment lugs 57, 59 are such as to dispose the stud 61 to lie between the respective front and rear legs, with the upper ends of these legs being maintained in spaced apart relationship. Stud 61 projects through guide slot 19 so that the enlarged head 63 of stud 61 is disposed and housed within passageway

35 with stud 61 being freely slidable along guide slot 19 and with the stud head being maintained for free movement within the passageway by the segregating effect of the retainer channels 33. It thus will be seen that the legs 45, 49 pivotally interconnected by stud 61 are mounted for relative vertical shifting movement along container 11 by the engagement of stud 61 with guide slots 19, and that the standard means comprising the legs and the interconnecting studs and cross bars are shiftable from a storage position such as is shown in Fig. 2 to an extended display position as shown in Fig. 1, and may be reversely shifted from the display position to the storage position.

In the storage position shown in Fig. 2 the legs are moved upwardly so as to lie along and to nestingly embrace side angles 15, with studs 61 moved adjacent the uppermost ends of slots 19 being limited in this upward travel by upper connector plates 16. In this position a hook 65, which is mounted on at least one of the side angle members 15, is engaged by the lower edge of one of the cross bars, as for example the front cross bar 47. In this manner the legs are retained by the hook shape of hook 65 against free outward swinging, and the legs and cross bars are biased by gravity so that the cross bar is seated on and supported by hook 65, thus preventing the downward relative movement of legs 45, 49, relative to container 11. In this position the stud 61 is spaced slightly below upper connector plate 16 under the influence of gravity on the legs, cross bars and studs which are interconnected and engaged with the slots 19. As shown in Fig. 2, the device when thus compacted into this storage position, is capable of ready transportation through the utilization of handle 31 so as to carry the same from place to place, and also providing a very compact arrangement of the container and standard means for convenient storage, as for example in a work truck.

When it is desired to erect the sign display at a selected site, the legs 45, 49 are to be extended relatively to container 11, and for this purpose the cross bar 47 is freed from hook 65 and the studs 61 will move downwardly along slots 19 lowering the legs relatively to container 11 until the studs 61 have reached the lower end of slots 19, being limited from further overtravel beyond this position by bottom connector plate 17. At this position the legs may be spread outwardly as illustrated in Fig. 1, and the front shoulders 53 respectively engaged with the underside of a pair of front stops 67 mounted adjacent but slightly above the lower ends of front side members 15, and similarly rear shoulders 55 may be engaged with similar stops 67 carried by the rear side members 15. Thus it will be seen that standard means 13 when extended to the display position of Fig. 1 are effectively retained in this position against upward movement relative to container 11 by the interengagement of the shoulders 53, 55 with the stops 67, and this engagement is maintained by the weight of container 11 forcing stops 67 downwardly to seat solidly against shoulders 53, 55.

As can readily be seen, when it is desired to return the display device to the storage position as shown in Fig. 2, the container may be lifted by use of the handle 31, relieving the effect of gravity on the container and moving the stops 67 away from leg shoulders 53, 55, freeing the legs of the restraint imposed thereon and permitting the legs to swing under the additional influence of gravity into proximity and substantial alignment with the side members 15. Thereupon, with the shoulders freed from the stops and the legs swung inwardly, the device may be lowered by merely reducing the upward pull on handle 31, permitting the container 11 to move downwardly relatively to standard means 13, the slots 19 moving downwardly along studs 61, with the passage of the stud heads through passageways 35 being maintained free from interference by the segregating effect of the passageways. A simple outward movement

permits cross bar 47 to pass over hook 65 and thereafter the cross bar may be swung inwardly to seat on and engage with the hook as shown in Fig. 2. It will be observed that the cross bar 47 is spaced above the lower end of legs 45 a distance substantially equal to the spacing of hook 65 above the lower edge of container 11 so that when the legs have been moved into the storage position they do not project below the lower extremity of container 11, thus additionally providing for compactness of the device when in such storage position.

It will further be observed that when it is desired to interchange the sign being displayed through the front and rear of container 11, top 25 may be very simply slidably removed from upper members 21, thus providing for access to the interior of container 11 and to the additional signs 43 such as those stored within the storage space 41. With access thus provided, the displayed sign may be removed from retainer spaces 39 and a new sign placed in lieu thereof, with the removed or displaced sign being then returned to the storage place awaiting further and future use. The top 25 may then be slidably reengaged with upper members 21 and the device is in condition for further usage.

I claim:

1. In a sign display device, container means comprising a framework having an open front and an open rear for respectively displaying a selected sign surface, said frame including opposite side sections; each said side section comprising vertical side members forming part of said framework and each including a side flange, said flanges being interconnected in spaced apart relation to provide an elongated vertical guide slot, supporting standard means comprising a pair of front legs and a pair of rear legs, said legs each including an offset attachment lug fixed adjacent the upper ends of said legs, said front legs lugs respectively lapping said rear leg lugs, opposite studs pivotally interconnecting said lapped lugs to connect said front legs respectively with said rear legs and positioned between the legs so connected, said studs projecting through and slidably engaging said slots and terminating in enlarged heads lying inwardly of said flanges shiftably attaching said legs to said side sections for relative vertical shift along said side sections; a plurality of signs housed in said container and extending from side section to side section, retainer means secured to said side sections each including a web spaced inwardly from said flanges and spanning across the slots between said flanges to provide a passageway housing said stud head, said web being positioned closely adjacent the edges of said signs and segregating said sign edges from said passageway, said retainer means including means separately engaging the forwardmost and rearmost of said signs respectively closely adjacent said open front and rear, stop means carried by said side members engaging the upper extremities of said legs remote from said studs with said legs extending downwardly therebelow and said studs seating in the lower ends of said slots to support said container and said signs in display position, said legs being retractable under stud shift along said slots to a retracted storage position in which said legs nestingly embrace said side members, hook means carried by at least one of said side members, and means connected with said legs engaging said hook means to retain said legs in retracted condition.

2. In a sign display device, container means comprising a framework having an open front and an open rear for respectively displaying a selected sign surface, said frame including opposite side sections; each said side section comprising vertical side members forming part of said framework and each including a side flange, said flanges being interconnected in spaced apart relation to provide an elongated vertical guide slot, supporting standard means comprising a pair of front legs and a pair of rear legs, said legs each including an offset attachment lug fixed adjacent the upper ends of said legs, said front

leg lugs respectively lapping said rear leg lugs, opposite studs pivotally interconnecting said lapped lugs to connect said front legs respectively with said rear legs and positioned between the legs so connected, said studs projecting through and slidably engaging said slots and terminating in enlarged heads lying inwardly of said flanges shiftably attaching said legs to said side sections for relative vertical shift along said side sections; a plurality of signs housed in said container and extending from side section to side section, retainer means secured to said side sections each including a web spaced inwardly from said flanges and spanning across the slot between said flanges to provide a passageway housing said stud head, said web being positioned closely adjacent the edges of said signs and segregating said sign edges from said passageway, said retainer means including means separately engaging the forwardmost and rearmost of said signs respectively closely adjacent said open front and rear, stop means carried by said side members engaging the upper extremities of said legs remote from said studs with said legs extending downwardly therebelow and said studs seating in the lower ends of said slots to support said container and said signs in display position, said legs being retractable under stud shift along said slots to a retracted storage position in which said legs nestingly embrace said side members.

3. In a sign display device, container means comprising a framework having an open front and an open rear for respectively displaying a selected sign surface, said frame including opposite side sections; each said side section comprising vertical side members forming part of said framework and each including a side flange, said flanges being interconnected in spaced apart relation to provide an elongated vertical guide slot, supporting standard means comprising a pair of front legs and a pair of rear legs, opposite studs pivotally interconnecting said front legs respectively with said rear legs, said studs projecting through and slidably engaging said slots and terminating in enlarged heads lying inwardly of said flanges shiftably attaching said legs to said side sections for relative vertical shift along said side sections; a plurality of signs housed in said container and extending from side section to side section, retainer means secured to said side sections each including a web spaced inwardly from said flanges and spanning across the slot between said flanges to provide a passageway housing said stud head, said web being positioned closely adjacent the edges of said signs and segregating said sign edges from said passageway, said retainer means including means separately engaging the forwardmost and rearmost of said signs respectively closely adjacent said open front and rear, stop means carried by said side members engaging the upper extremities of said legs remote from said studs with said legs extending downwardly therebelow and said studs seating in the lower ends of said slots to support said container and said signs in display position, said legs being retractable under stud shift along said slots to a retracted storage position in which said legs nestingly embrace said side members.

4. In a sign display device, container means comprising a framework having an open front and an open rear for respectively displaying a selected sign surface, said frame including opposite side sections; each said side section comprising vertical side members forming part of said framework and each including a side flange, said flanges being interconnected in spaced apart relation to provide an elongated vertical guide slot, supporting standard means comprising a pair of front legs and a pair of rear legs, opposite studs pivotally interconnecting said front legs respectively with said rear legs, said studs projecting through and slidably engaging said slots and terminating in enlarged heads lying inwardly of said flanges shiftably attaching said legs to said side sections for relative vertical shift along said side sections; a plu-

ality of signs housed in said container and extending from side section to side section, means positioned closely adjacent the edges of said signs and segregating the edges of said signs from said stud heads, stop means carried by said side members engaging the upper extremities of said legs remote from said studs with said legs extending downwardly therebelow and said studs seating in the lower ends of said slots to support said container and said signs in display position, said legs being retractable under stud shift along said slots to a retracted storage position in which said legs nestingly embrace said side members.

5. In a sign display device, container means comprising a framework having an open front and an open rear for respectively displaying a selected sign surface, said frame including opposite side sections; each said side section comprising vertical side members forming part of said framework and each including a side flange, said flanges being interconnected in spaced apart relation to provide an elongated vertical guide slot, standard means comprising a pair of front legs and a pair of rear legs, opposite studs pivotally interconnecting said front legs respectively with said rear legs, said studs projecting through and slidably engaging said slots and terminating in enlarged heads lying inwardly of said flanges shiftably attaching said legs to said side sections for relative vertical shift along said side sections; stop means carried by said side members engaging the upper extremities of said legs remote from said studs with said legs extending downwardly therebelow and said studs seating in the lower ends of said slots to support said container in display position, said legs being retractable under stud shift along said slots to a retracted storage position in which said legs nestingly embrace said side members.

6. In a sign display device, container means comprising a framework having an open front and an open rear for respectively displaying a selected sign surface, said frame including opposite side sections; each said side section comprising vertical side members forming part of said framework and each including a side flange, said flanges being interconnected in spaced apart relation to provide an elongated vertical guide slot, standard means comprising a pair of front legs and a pair of rear legs, said legs each including an offset attachment lug fixed adjacent the upper ends of said legs, the lugs on said front legs respectively lapping the lugs on said rear legs, opposite studs pivotally interconnecting said lapped lugs to connect said front legs respectively with said rear legs and positioned between the legs so connected, said studs projecting through and slidably engaging said slots and terminating in enlarged heads lying inwardly of said flanges shiftably attaching said legs to said side sections for relative shift along said side sections; stop means carried by said side members engaging the upper extremities of said legs remote from said studs with said legs extending downwardly therebelow and said studs seating in the lower ends of said slots to support said container in display position, said legs being retractable under stud shift along said slots to a retracted storage position in which said legs nestingly embrace said side members.

7. In a sign display device, container means comprising a framework having an open front and an open rear for respectively displaying a selected sign surface, said

frame including opposite side sections; each said side section comprising vertical side members forming part of said framework and each including a side flange, said flanges being interconnected in spaced apart relation to provide an elongated vertical guide slot, standard means comprising a pair of front legs and a pair of rear legs, said legs each including an offset attachment lug fixed adjacent the upper ends of said legs, the lugs on said front legs respectively lapping the lugs on said rear legs, opposite studs pivotally interconnecting said lapped lugs to connect said front legs respectively with said rear legs and positioned between the legs so connected, said studs projecting through and slidably engaging said slots and terminating in enlarged heads lying inwardly of said flanges shiftably attaching said legs to said side sections for relative vertical shift along said side sections; stop means carried by said side members engaging the upper extremities of said legs remote from said studs with said legs extending downwardly therebelow and said studs seating in the lower ends of said slots to support said container in display position, said legs being retractable under stud shift along said slots to a retracted storage position in which said legs nestingly embrace said side members, and means connected with said legs and said side members to retain said legs in retracted condition.

8. In a sign display device, container means comprising a framework having an open front and an open rear for respectively displaying a selected sign surface, said frame including opposite side sections; each said side section comprising vertical side members forming part of said framework and each including a side flange, said flanges being interconnected in spaced apart relation to provide an elongated vertical guide slot, supporting standard means comprising a pair of front legs and a pair of rear legs, said legs each including an offset attachment lug fixed adjacent the upper ends of said legs, the lugs on said front legs respectively lapping the lugs on said rear legs, opposite studs pivotally interconnecting said lapped lugs to connect said front legs respectively with said rear legs and positioned between the legs so connected, said studs projecting through and slidably engaging said slots and terminating in enlarged heads lying inwardly of said flanges shiftably attaching said legs to said side sections for relative vertical shift along said side sections; web means spaced inwardly from said flanges and spanning across the slot between said flanges to provide a passage-way housing said stud head, stop means carried by said side members engaging the upper extremities of said legs remote from said studs with said legs extending downwardly therebelow and said studs seating in the lower ends of said slots to support said container in display position, said legs being retractable under stud shift along said slots to a retracted storage position in which said legs nestingly embrace said side members, hook means carried by at least one of said side members, and means connected with said legs engaging said hook means to retain said legs in retracted condition.

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